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IN THE

Supreme Court of the United States.

OCTOBER TERM, 1994

LOTUS DEVELOPMENT CORPORATION.

Petitioner,

—V.—

BORLAND INTERNATIONAL, INC.

Respondent.

ON PETITION FOR A WRIT OF CERTIORARI TO THE UNITED STATES
COURT OF APPEALS FOR THE FIRST CIRCUIT

PETITION FOR A WRIT OF CERTIORARI

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QUESTION PRESENTED

Whether a computer program's particular menu command hierarchy, which the district court found to contain expression separable from its underlying idea and the functionality it describes, may be protected by copyright in light of the explicit Congressional extension of copyright to computer programs under the same principles applicable to other literary works; or whether, as the First Circuit held, Section 102(b) of the Copyright Act bars protection for any such menu command hierarchy despite its expressive characteristics, because it assists users in communicating with a computer program in order to perform useful operations.

RULE 29.1 STATEMENT

Petitioner Lotus Development Corporation has no parent corporation and no subsidiaries that are not wholly owned, except for certain foreign subsidiaries in which a minimal amount of shares (fewer than 1%), which are not publicly traded, are held by foreign nationals in accordance with local law.

TABLE OF CONTENTS

	PAGE
QUESTION PRESENTED	i
RULE 29.1 STATEMENT.....	ii
TABLE OF AUTHORITIES	iv
OPINIONS BELOW	1
JURISDICTION.....	1
CONSTITUTIONAL AND STATUTORY PROVISIONS INVOLVED	1
STATEMENT OF THE CASE.....	1
A. Factual Background.....	2
B. Legal Background	7
C. Prior Proceedings in This Case	17
1. In the District Court	17
2. In the Court of Appeals.....	19
REASONS FOR GRANTING THE PETITION.....	21
I. THE DECISION OF THE COURT OF APPEALS CONFLICTS WITH DECISIONS OF NO FEWER THAN FIVE OTHER CIRCUITS	23
II. THE QUESTION OF FEDERAL LAW DECIDED BY THE COURT OF APPEALS UNSETTLES THE LAW IN AN IMPORTANT AREA AND THEREFORE THE PUBLIC INTEREST REQUIRES THIS COURT'S REVIEW	26
CONCLUSION.....	30

TABLE OF AUTHORITIES

Cases	PAGE
<i>Apple Computer, Inc. v. Formula Int'l Inc.</i> , 725 F.2d 521 (9th Cir. 1984).....	13n
<i>Apple Computer, Inc. v. Franklin Computer Corp.</i> , 714 F.2d 1240 (3d Cir. 1983), cert. dismissed, 464 U.S. 1033 (1984).....	12-13, 26, 29
<i>Apple Computer, Inc. v. Microsoft Corp.</i> , 35 F.3d 1435 (9th Cir. 1994), cert. denied, ___ U.S. __, 115 S. Ct. 1176 (1995)	25
<i>Atari Games Corp. v. Oman</i> , 888 F.2d 878 (D.C. Cir. 1989).....	13
<i>Atari, Inc. v. North American Philips Consumer Electronics Corp.</i> , 672 F.2d 607 (7th Cir.), cert. denied, 459 U.S. 880 (1982).....	13
<i>Autoskill, Inc. v. National Educational Support Systems, Inc.</i> , 994 F.2d 1476 (10th Cir.), cert. denied, ___ U.S. __, 114 S. Ct. 307 (1993)	14n, 24, 24n
<i>Baker v. Selden</i> , 101 U.S. 99 (1879).....	9, 10, 20
<i>Brown Bag Software v. Symantec Corp.</i> , 960 F.2d 1465 (9th Cir.), cert. denied sub nom. <i>BB Asset Mgmt. Inc. v. Symantec Corp.</i> , ___ U.S. __, 113 S. Ct. 198 (1992)	25
<i>Computer Assoc. Int'l, Inc. v. Altai, Inc.</i> , 982 F.2d 693 (2d Cir. 1992).....	10, 14n, 15-16, 20n, 25, 26
<i>Engineering Dynamics, Inc. v. Structural Software, Inc.</i> , 26 F.3d 1335 (5th Cir. 1994)	14n, 16-17, 22, 23-24

	PAGE
<i>Feist Publications, Inc. v. Rural Telephone Serv. Co.</i> , 449 U.S. 340 (1991)	8-9
<i>Gates Rubber Co. v. Bando Chemical Indus., Ltd.</i> , 9 F.3d 823 (10th Cir. 1993)	14n, 16, 24n
<i>Harper & Row, Publishers, Inc. v. Nation Enterprises</i> , 471 U.S. 539 (1985)	21
<i>Hartfield v. Peterson</i> , 91 F.2d 998 (2d Cir. 1937)	12n
<i>Johnson Controls, Inc. v. Phoenix Control Systems, Inc.</i> , 886 F.2d 1173 (9th Cir. 1989)	14n, 25
<i>Kepner-Tregoe, Inc. v. Leadership Software, Inc.</i> , 12 F.3d 527 (5th Cir.), cert. denied, ___ U.S. __, 115 S. Ct. 82 (1994)	14n
<i>Mazer v. Stein</i> , 347 U.S. 201 (1954)	12, 12n, 18, 20n, 21, 30
<i>Morrissey v. Procter & Gamble Co.</i> , 379 F.2d 675 (1st Cir. 1967)	10
<i>Nichols v. Universal Pictures Corp.</i> , 45 F.2d 119 (2d Cir. 1930), cert. denied, 282 U.S. 902 (1931).....	10, 15, 25
<i>Orgel v. Clark Boardman Co.</i> , 301 F.2d 119 (2d Cir.), cert. denied, 371 U.S. 817 (1962)	12n
<i>Lotus Development Corp. v. Paperback Software Int'l</i> , 740 F. Supp. 37 (D. Mass. 1990).....	<i>passim</i>
<i>Peter Pan Fabrics v. Martin Weiner Corp.</i> , 274 F.2d 487 (2d Cir. 1960)	28n
<i>Reiss v. National Quotation Bureau</i> , 276 F. 717 (S.D.N.Y. 1921).....	12n

Sony Corp. v. Universal City Studios, Inc., 464 U.S.
417 (1984) 21

Whelan Assoc., Inc. v. Jaslow Dental Laboratory, Inc.,
797 F.2d 1222 (3d Cir. 1986), *cert. denied*, 479
U.S. 1031 (1987) 13-14, 16, 26

Constitutional Provision, Statutes and Public Laws

United States Constitution, art. I, § 8, cl. 8 1, 7

17 U.S.C. § 101 1, 3, 8, 18n, 27

 § 102(a) *passim*

 § 102(b) *passim*

 § 103 1, 14

 § 117 1, 27n

28 U.S.C. § 1254 1

Act of May 31, 1790, ch. 15, § 1, 1 Stat. 124
(repealed 1831) 7

Pub. L. No. 93-573, § 201(b)-(c), 88 Stat. 1873
(1974) 11n

Pub. L. No. 96-517, § 12, 94 Stat. 3015 (1980)
(codified at 17 U.S.C. §§ 101, 117) 11n

Legislative Materials

H.R. Rep. No. 1476, 94th Cong., 2d Sess., *reprinted*
in 1976 U.S. Code Cong. & Admin. News
5659 8, 11, 12, 27

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in 1980 U.S. Code Cong. & Admin. News 6460 11n

Other Authorities

Final Report of the National Commission on New
Technological Uses of Copyrighted Works
(1978) 11, 12, 21

David Nimmer & Melville B. Nimmer, 3 *Nimmer on*
Copyright, § 13.03[F][1] 16

Lotus Development Corporation ("Lotus") respectfully petitions for a writ of certiorari to review the judgment of the United States Court of Appeals for the First Circuit in this case.

OPINIONS BELOW

The opinion of the court of appeals (Pet. App. 1a-28a) is reported at 49 F.3d 807. The opinions of the District Court for the District of Massachusetts (Robert E. Keeton, J.) are reported at 788 F. Supp. 78 (Pet. App. 145a-182a); 799 F. Supp. 203 (Pet. App. 106a-144a); 831 F. Supp. 202 (Pet. App. 71a-105a); and 831 F. Supp. 223 (Pet. App. 29a-70a). The opinion of the district court in the related case of *Lotus Development Corp. v. Paperback Software International* is reported at 740 F. Supp. 37 (Pet. App. 183a-269a).

JURISDICTION

The Court of Appeals entered judgment on March 9, 1995. Pet. App. 1a. The jurisdiction of this Court is invoked under 28 U.S.C. § 1254.

CONSTITUTIONAL AND STATUTORY PROVISIONS INVOLVED

United States Constitution, art. I, § 8, cl. 8

The Congress shall have Power . . . [t]o promote the Progress of Science and the useful Arts, by securing for limited Times to Authors . . . the exclusive Right to their . . . Writings. . . .

17 U.S.C. § 101, 17 U.S.C. § 102, 17 U.S.C. § 103, 17 U.S.C. § 117. (The full text of the statutory provisions involved is set forth in the accompanying Appendix (Pet. App. at 270a-280a).)

STATEMENT OF THE CASE

This case presents issues of fundamental importance concerning the scope of copyright protection for computer software and the application of Section 102(b) of the Copyright Act, 17 U.S.C. § 102(b), to this type of literary work. In a series of decisions in this and a related case (Pet. App. 29a-269a), the

district court (Keeton, J.) developed criteria for applying to computer programs the “idea/expression” distinction embodied in Section 102(b) and traditionally employed to delineate the scope of copyright protection for literary works. The district court’s analysis, which has become virtually canonical, has been cited with approval by the Tenth, Ninth, and Second Circuits. Its conclusion—that the menu command hierarchy of petitioner’s Lotus 1-2-3 program contains protectable expression—has been expressly relied upon by the Fifth Circuit.

The First Circuit, openly acknowledging the conflict between its analysis and that of other circuits (Pet. App. at 21a-22a), reversed the district court and adopted an interpretation of Section 102(b) that reads a new threshold requirement into the copyrightability provision in Section 102(a). The First Circuit rejected the application of the “idea/expression” dichotomy to the 1-2-3 menu command hierarchy and concluded that it is barred from copyright protection, despite any original expression it may contain, because it can be characterized as comprising part of a “method of operation.” Pet. App. at 21a. In so ruling, the court below denied copyright protection for the element of the 1-2-3 computer program that communicates most directly with the user, which the district court found served an explanatory and informative purpose separable from its ultimate functional uses. Because all computer programs state a “method of operation,” or “method for operating the computer” (*id.* at 20a), the First Circuit’s decision has unsettled the law of copyright as applied to many elements of computer programs, not just their menu command hierarchies. The practical needs for clarification and for national uniformity of law justify this Court’s review.

A. Factual Background

The district court’s opinion in *Lotus Development Corp. v. Paperback Software Int’l* (Pet. App. at 184a-193a & 226a-229a) (hereinafter “Paperback”) contains a useful primer on the nature of computer programs and the elements of the programs at issue. We draw from that analysis and summarize its key points.

For Copyright Act purposes, Congress defined a “computer program” as follows:

A “computer program” is a set of statements or instructions to be used directly or indirectly in a computer in order to bring about a certain result. (17 U.S.C. § 101.)

The principal written manifestation of a computer program is its source or object code. Pet. App. at 187a. Source code typically is written in a form of programming language, such as BASIC or FORTRAN, that uses complex symbolic names and rules of syntax to express instructions for the computer to execute. *Id.* at 188a. The source code must be converted or “compiled” into a binary form that the digital computer can recognize, called a machine language, before the computer can execute the program. *Id.* at 189a. Compiled source code is called “object code.” *Id.*

The user usually never sees or is even aware of the object or source code during operation of the program. The portion of the program the user communicates with is called the “user interface.” *Id.* at 226a. This normally consists of a series of textual messages or visual images displayed on the video monitor that the program causes the computer to generate in response to instructions from the user or as a result of preceding operations. The user interface also includes the messages the user communicates to the program, which the program interprets, in context, as an instruction to the computer. Because a program’s user interface is perceived in a form that usually is distinct from the program code that generates it, user interfaces often have been referred to as “non-literal elements” of computer programs. *Id.* at 258a-260a. User interfaces are, however, generated by and represented in the program code (*id.*), and frequently represent a substantial part of both the creative design effort and value in a program. *Id.* at 135a, 212a, 235a & 250a.

From a commercial perspective, personal computer programs generally are divided into two categories: operating system programs and application programs. *Id.* at 186a. Operating system programs control the basic functions of the computer, such as the internal allocation of computer memory. *Id.* Application programs permit a user to perform a set of related operations directed towards particular tasks, such as word processing or

database management. *Id.* Typically, application programs are designed to work with a particular operating system, for example, DOS or UNIX, and will not work with a computer directly. *Id.* Lotus 1-2-3 is an example of a type of application program known as a "spreadsheet" program. *id.* These provide users with the ability to perform arithmetical and mathematical operations on numerical data entered by the user in an electronic representation of a spreadsheet grid, arranged in columns and rows; to reconfigure the style or layout of the spreadsheet to suit the user's particular needs; and to manipulate and present the data in the spreadsheet in a variety of ways, such as different tabular or graphical display formats. *Id.* at 226a-227a.

In order to cause the 1-2-3 program to perform a functional operation, the user first must communicate an instruction to the program that the program will recognize. Like a short-form instruction manual or reference guide, the Lotus 1-2-3 menu command hierarchy provides information to assist users in selecting the appropriate instructions that will cause the program to perform certain types of tasks.¹ *Id.* at 78a-79a. When the user presses the "/" (slash) key, the program displays a "menu" of ten words representing the array of available "menu commands" or instructions that the program is designed to recognize at that point, beginning with "WORKSHEET," "RANGE," "COPY," and "MOVE."² *Id.* at 227a-228a. Most of these "commands" do not cause the program to perform any operation other than to display another menu, or sub-menu, of further choices, and so on until a particular instruction to the program is specified.³ At each menu level, the user indicates a selection by moving the cursor key to highlight an item and striking the "Enter" key, or by striking a letter key corre-

¹ These do not, however, include arithmetical and mathematical calculations, which a user indicates by operands and other notations entered in the spreadsheet itself. *Id.* at 232a-233a.

² The description in text is of the versions of Lotus 1-2-3 that Borland copied, all of which were published prior to April 1986. *Id.* at 81a, 96a & 113a. Lotus subsequently released numerous revised versions of Lotus 1-2-3 containing additional user interface features.

³ For example, the "WORKSHEET" command leads to a sub-menu of nine new choices, beginning with "GLOBAL."

sponding to the first letter of the word representing the desired menu command, e.g., "W" for "WORKSHEET." The ordering and arrangement of the various menus and dependent sub-menus is called the "menu tree" or "menu command hierarchy." *Id.* at 79a-81a. There are 469 menu commands in all, arranged in more than 50 different menus. *Id.* at 4a & 92a.

The 1-2-3 menu command hierarchy was designed in 1982 by Lotus' founder, Mitchell Kapor, and a team working under his direction. *Id.* at 231a. Kapor and his team first specified the selection of functional capabilities that the program would provide (such as changing the widths of individual columns in the spreadsheet), and implemented those capabilities in the program's code. *Id.* at 288a. The menu commands reflected Kapor's attempt to express those capabilities to users in words "that would intelligently convey to the user the purpose of each command." *Id.* at 291a. The hierarchical arrangement of the menus was intended to "reflect a structured approach that communicated the product's underlying functionality." *Id.* Kapor and his team spent hundreds of hours refining the choice of each word to use in the menus, the order in which those words would appear within each menu, and the organization of the menus in a hierarchical structure. *Id.* The menu hierarchy he ultimately selected "was based largely on my intuition and subjective judgment . . . trying as best I could to imagine myself in the role of a typical user."⁴ *Id.* at 292a.

As the district court found in this action, the 1-2-3 menu command hierarchy is only one of a very large number of possible ways to express to users the universe of available instructions for performing operations in a spreadsheet program. *Id.* at 86a-88a & 131a-133a. The record before the district court con-

⁴ 1-2-3 also was designed to allow the user to create "macros," or sequences of frequently-used commands that can be executed with a single keystroke. *Id.* at 290a. Macros may include commands other than menu commands. *Id.* at 228a-229a. In writing a macro, the user indicates a menu command either by referring to its first letter ("C" for "COPY") or by writing a series of positional commands corresponding to the movement of the cursor followed by the "ENTER" command, i.e., "(RIGHT) (RIGHT) (ENTER)." *Id.* at 31a-33a.

tained numerous examples of contemporaneous programs that performed the same basic spreadsheet functions, but employed different menu hierarchies and menu commands. *Id.* at 88a. Indeed, the district court found that, even if a software developer voluntarily restricted itself to designing a program that provided *exactly* the same set of functional capabilities that 1-2-3 provided, using the same type of hierarchical menu structure, there would still be millions of possible permutations for an acceptable spreadsheet menu command hierarchy. *Id.* at 131a. Other words could be chosen to represent each menu command; the order of the words within each menu could be altered; and the placement of commands in particular menus—*i.e.*, the decisions as to which commands should depend upon other commands, at what depth in the hierarchical arrangement—could be varied. *Id.* at 131a-132a. It is the copyrightability of the *entire* 1-2-3 menu command hierarchy, taken as a whole, and *not* the protection of any individual word viewed in isolation, such as the relatively standard menu commands “PRINT” or “QUIT,” that is at issue in this case. *Id.* at 86a-89a.

Following its introduction in January 1983, Lotus 1-2-3 achieved great commercial success and became the most popular spreadsheet program for use with DOS operating systems. *Id.* at 230a-231a. Lotus’ success was rapidly followed by imitators such as Paperback Software, who sought to enter the spreadsheet market with self-described 1-2-3 “clones,” or programs displaying menu command hierarchies deliberately copied from Lotus 1-2-3, which sold at substantially lower prices. *Id.* at 147a-148a & 236a-238a. Lotus commenced the *Paperback* case in January 1987, alleging that copying of the 1-2-3 user interface was a violation of its copyrights in 1-2-3. *Id.* at 96a. With full awareness of that case, Borland released the first version of its spreadsheet products, called “Quattro,” in November 1987, and a second product, called “Quattro Pro,” in November 1989. *Id.* at 96a & 100a.

Quattro and Quattro Pro differed from earlier “clones” chiefly by providing alternate menu trees that the user could select: a so-called “native” menu tree, which was developed independently by Borland and was materially different both in menu

content and hierarchical arrangement from 1-2-3; and a “1-2-3 emulation” menu tree, which contained a virtually identical copy of the Lotus 1-2-3 menu command hierarchy. *Id.* at 82a. Both types of menu tree allowed users to invoke the same set of functional capabilities. *Id.* at 131a. Like the earlier “clone” makers, Borland copied the 1-2-3 menu command hierarchy for commercial reasons, in order to try to persuade 1-2-3 users to switch to its products by promoting the presence of the “familiar” 1-2-3 menus. *Id.* at 61a-62a. Every version of Borland’s spreadsheet products sold before the district court’s ruling in this case contained, in some form, a virtually identical copy of the 1-2-3 menu command hierarchy.⁵ *Id.* at 33a & 82a.

B. Legal Background

Congress’ authority to confer copyright protection is stated in the Constitution of the United States, art. I, § 8, cl. 8:

The Congress shall have Power . . . [t]o promote the Progress of Science and useful Arts, by securing for limited Times to Authors . . . the exclusive Right to their . . . Writings . . .

The First Congress applied this power to protect useful and utilitarian writings, as well as artistic and aesthetic works, extending copyright protection to “any map, chart, book or books already printed.” Act of May 31, 1790, ch. 15, § 1, 1 Stat. 124, 124 (repealed 1831).

When Congress adopted the current Copyright Act in 1976, it deliberately defined the “works of authorship” eligible for copyright protection in an open-ended and general manner. Thus, Section 102(a) provides that:

⁵ After Lotus commenced this action, Borland introduced a new feature in subsequent versions of Quattro Pro called the “Key Reader.” *Id.* at 33a. This was a modification of the “1-2-3 emulation” menu tree that was stripped down to just the first letters of the 1-2-3 menu commands and hidden inside the program, in what Borland referred to in its own internal documents as “phantom” 1-2-3 menus. *Id.* at 35a-36a. Although the Key Reader would not display these “phantom” menus to the user, it allowed users to execute 1-2-3 macros while working with the “native” Quattro Pro menus. *Id.* at 33a.

Copyright protection subsists . . . in original works of authorship fixed in any tangible medium of expression, *now known or later developed*, from which they can be perceived, reproduced or otherwise communicated, either directly or with the aid of a machine or device. (17 U.S.C. § 102(a) (emphasis supplied).)

As the emphasized language indicates, Congress intended that the types of protected “works” were not to be restricted to those expressed in media then in existence or in popular use, but also would embrace new forms of expression that would become possible only through future technological advances.

Section 102(a) goes on to state an “illustrative and not limitative” list of seven categories of protected “works of authorship,” the first of which is “literary works.” 17 U.S.C. § 102(a). Literary works are defined as works, “other than audiovisual works, expressed in words, numbers, or other verbal or numerical symbols or indicia, regardless of the nature of the material objects . . . in which they are embodied.” 17 U.S.C. § 101.⁶ Congress specifically intended that computer programs be treated as “literary works”:

The term “literary works” does not connote any criterion of literary merit or qualitative value: it includes catalogs, directories, and similar factual, reference, or instructional works and compilations of data. *It also includes computer data bases, and computer programs to the extent that they incorporate authorship in the programmer’s expression of original ideas, as distinguished from the ideas themselves.* (H.R. Rep. No. 1476, 94th Cong., 2d Sess. at 54 (the “House Report”), reprinted in 1976 U.S. Code Cong. & Admin. News 5659, 5667 (emphasis supplied).)

The fact that a work is eligible for copyright, however, does not mean that every element of the work may be protected against copying by others, as this Court observed in *Feist Publications, Inc. v. Rural Telephone Serv. Co.*, 449 U.S. 340, 348 (1991). The scope of protection afforded to a copyrighted work is subject to important limiting principles, derived from the

⁶ Both a computer program’s code and its menu command hierarchy are, therefore, expressions of a literary work.

Constitution itself. The first of these is that copyright will protect only so much of a work as is original to, or created by, the author. For example, copyright in a factual compilation will extend only to the original selection, coordination, or arrangement of the facts contributed by the author, but not to the facts themselves, which the author did not create. *Id.* at 348. Relatedly, because the purpose of copyright is “[t]o promote the Progress of Science and the useful Arts,” “copyright assures authors the right to their original expression, but encourages others to build freely upon the ideas and information conveyed by a work.” *Id.* at 349-50.

This distinction between an idea, which copyright will not protect, and a particular expression of that idea, which may be protected if original to the author, “applies to all works of authorship.” *Id.* at 350. Its origin lies in this Court’s seminal decision in *Baker v. Selden*, 101 U.S. 99 (1879). Selden published a book describing a method of double-entry accounting and sued Baker for infringement when Baker subsequently published another work describing the same method in his own words. Concluding that Baker had not infringed Selden’s copyright, this Court explained:

Where the art [a book] teaches cannot be used without employing the methods and diagrams used to illustrate the book, or such as are similar to them, such methods and diagrams are to be considered as necessary incidents to the art, and given therewith to the public; not given for the purpose of publication in other works explanatory of the art, but for the purpose of practical application The use by another of the same methods of statement, whether in words or illustrations, in a book published for teaching the art, would undoubtedly be an infringement of the copyright. (101 U.S. at 103-104.)

Baker v. Selden always has been understood to permit the free use of the ideas or methods explained in a useful literary work, while prohibiting another from copying an author’s particular description or manner of articulation of those ideas or methods—*i.e.*, their expression.

In the years between *Baker v. Selden* and the passage of the 1976 Copyright Act, the courts recognized that copyright infringement could occur although the infringer had not copied the literal text of a work, or "else a plagiarist would escape by immaterial variations." *Nichols v. Universal Pictures Corp.*, 45 F.2d 119, 121 (2d Cir. 1930) (L. Hand, J.), *cert. denied*, 282 U.S. 902 (1931). To guide the application of the idea/expression distinction to such "non-literal" elements of copyrighted works, Judge Hand devised the "abstractions" test, articulated in *Nichols*:

Upon any work . . . a great number of patterns of increasing generality will fit equally well, as more and more of the incident is left out. The last may perhaps be no more than the most general statement of what the [work] is about, and at times might consist only of its title; but there is a point in this series of abstractions where they are no longer protected, since otherwise the [author] could prevent the use of his "ideas," to which, apart from their expression, his property is never extended. (45 F.2d at 121.)

As the courts attempted to draw the boundary between idea and expression, they developed the concept of "merger." This doctrine, too, has its roots in *Baker v. Selden*. *Computer Assoc. Int'l, Inc. v. Altai, Inc.*, 982 F.2d 693, 707 (2d Cir. 1992). If a particular form of expression is necessary to use of an idea—such as "the methods and diagrams" that were "necessary incidents" to the use of Baker's bookkeeping system (101 U.S. at 103)—then the expression is said to "merge" with the idea. *Altai*, 982 F.2d at 704. Under the merger doctrine, when an idea is capable of only one or a limited number of forms of expression, so that copyright in those few forms effectively would preclude others from using the idea, the expression is uncopyrightable. *Morrissey v. Procter & Gamble Co.*, 379 F.2d 675, 678-79 (1st Cir. 1967).

Congress codified the judicially developed idea/expression distinction in Section 102(b) of the 1976 Copyright Act, which provides:

In no case does copyright protection for an original work of authorship extend to any idea, procedure, process, system,

method of operation, concept, principle, or discovery, regardless of the form in which it is described, explained, illustrated, or embodied in such work. (17 U.S.C. § 102(b).)

As the legislative history explains:

Section 102(b) in no way enlarges or contracts the scope of copyright protection under the present law. Its purpose is to restate, in the context of the new single Federal system of copyright, that the basic dichotomy between expression and idea remains unchanged. (House Report at 57, *reprinted in* 1976 U.S. Code Cong. & Admin. News at 5670.)

The legislative history makes clear that Congress specifically intended the courts to apply this distinction to delineate the scope of protection for computer programs. *Id.*

In 1980, Congress reaffirmed this intention when it adopted, without material modification, the recommendations of the National Commission on New Technological Uses of Copyrighted Works ("CONTU").⁷ Congress had established CONTU in 1974 for the purpose, *inter alia*, of studying the relationship between computers and copyrights, and reporting recommendations concerning what, if any, changes in the law were appropriate to accommodate the inclusion of computer programs.⁸ Following extensive study, public hearings and debate, CONTU recommended that computer programs continue to receive protection as "literary works" under traditional copyright principles. *See Final Report of the National Commission on New Technological Uses of Copyrighted Works* (1978), at 1-2 & 37-46 (hereinafter "CONTU Report").

CONTU was well aware that computer programs were inherently functional and utilitarian as well as expressive. *Id.* at 21-23. That a work can be put to useful or functional purposes, however, does not serve to bar copyright protection for the

⁷ Pub. L. No. 96-517, § 12, 94 Stat. 3015, 3028 (1980) (codified at 17 U.S.C. §§ 101, 117). *See H.R. Rep. No. 1307, 96th Cong., 2d Sess. at 23, reprinted in* 1980 U.S. Code Cong. & Admin. News 6460, 6482 (the pertinent section of the bill "embodies the recommendations of [CONTU] with respect to clarifying the law of copyright of computer software").

⁸ Pub. L. No. 93-573, § 201(b)-(c), 88 Stat. 1873-74 (1974).

expressive elements of the work. In *Mazer v. Stein*, 347 U.S. 201, 218 (1954), this Court held that the sculptural base for a lamp was copyrightable to the extent that its expression could be separated from its utilitarian function, declaring that the “intended use or use in industry of an article eligible for copyright” did not preclude protection for such a work.⁹ Copyright has long protected such useful forms of writing as maps and charts, dictionaries, catalogs, textbooks, law reporters, and code books,¹⁰ as the legislative history of the 1976 Act recognized. House Report at 53-54, reprinted in 1976 U.S. Code Cong. & Admin. News at 5666-67.

CONTU further understood that computer programs potentially could be characterized as part of a “process” or “method of operation” under Section 102(b). CONTU Report at 18-20. Nevertheless, CONTU expressed a firm belief that the “idea/expression” distinction would suffice to guide the courts to draw an appropriate line that would still provide meaningful copyright protection for computer programs. As it declared:

That the words of a program are used ultimately in the implementation of a process should in no way affect their copyrightability. (*Id.* at 21.)

This precise issue was presented in *Apple Computer, Inc. v. Franklin Computer Corp.*, 714 F.2d 1240 (3d Cir. 1983), *cert. dismissed*, 464 U.S. 1033 (1984). Franklin argued, as CONTU had anticipated, that Section 102(b) precluded copyright protection for the operating system program designed to work with the then-industry standard Apple II personal computer, on the ground that it was an uncopyrightable “process,” “system,” or “method of operation.” 714 F.2d at 1250-52. Applying the

⁹ This Court also held in *Mazer* that the patent and copyright laws are not mutually exclusive, and that the availability of patent protection for certain aspects of an article did not bar the application of copyright to protect other aspects. *Id.* at 217.

¹⁰ See, e.g., *Orgel v. Clark Boardman Co.*, 301 F.2d 119 (2d Cir.), *cert. denied*, 371 U.S. 817 (1962) (upholding the copyrightability of analysis, organization, phrasing, and citation in textbook); *Hartfield v. Peterson*, 91 F.2d 998 (2d Cir. 1937) (A. Hand, J.) (holding telegram and cable code protectable); *Reiss v. National Quotation Bureau*, 276 F. 717 (S.D.N.Y. 1921) (L. Hand, J.) (same).

idea/expression distinction and merger analysis to determine that other methods existed to create a computer program that would operate the computer, the court held that the particular set of instructions Apple had created to express that idea was protected by copyright.¹¹ The court also rejected, as a “commercial and competitive objective” that was irrelevant to its copyrightability analysis, Franklin’s argument that its copying was necessary to achieve “compatibility,” or to create an operating system program that would work with the body of existing application programs designed for the Apple II system. *Id.* at 1253.

Other early decisions applied the idea/expression distinction in the context of videogames, which are a type of computer program. For example, in *Atari, Inc. v. North American Philips Consumer Electronics Corp.*, 672 F.2d 607, 615-18 (7th Cir.), *cert. denied*, 459 U.S. 880 (1982), the Seventh Circuit applied Judge Hand’s *Nichols* “abstractions” test to determine the scope of protection in plaintiff’s PAC-MAN videogame. Although the court held that the game rules comprised an unprotectable “idea,” it went on to examine plaintiff’s implementation of that game to determine whether “the particular form in which it is expressed” provided “something ‘new or additional over the idea.’” 672 F.2d at 617 (citation omitted). Finding expressive elements that the “game as such” did “not dictate,” the court held that defendant’s “virtually identical” copying of those elements was an infringement. *Id.* at 618. See also *Atari Games Corp. v. Oman*, 888 F.2d 878, 884-86 (D.C. Cir. 1989) (R.B. Ginsburg, J.) (reversing and remanding judgment affirming refusal of the Register of Copyrights to register copyright in the BREAKOUT videogame, for failure to explain how, in the Register’s view, the work was “dictated by ‘functional requirements’” and did not contain expression “separable from the game itself” that would “qualify as copyrightable subject matter”).

In *Whelan Assoc., Inc. v. Jaslow Dental Laboratory, Inc.*, 797 F.2d 1222 (3d Cir. 1986), *cert. denied*, 479 U.S. 1031 (1987),

¹¹ A year later, the Ninth Circuit adopted the Third Circuit’s analysis to reach the same conclusion in *Apple Computer, Inc. v. Formula Int’l Inc.*, 725 F.2d 521, 523-25 (9th Cir. 1984).

the Third Circuit addressed the question whether copyright in a computer program extended to its non-literal elements, as is true for other forms of literary works. The defendant in *Whelan* had not copied the literal text of plaintiff's program code, but rather had comprehensively copied its structure, sequence, and organization to create a competing program to perform the same functions. Finding support for its conclusion in Section 103 of the Copyright Act, 17 U.S.C. § 103, which extends protection to "compilations" of "pre-existing materials or of data that are selected, coordinated, or arranged" in an original way (797 F.2d at 1239), the court found no reason to treat computer programs differently from other literary works in this regard. Accordingly, the court allowed "copyrightable protection beyond the literal computer code" (*id.* at 1237), extending it also to "the particular means chosen" by the programmer to achieve the program's purpose or function so long as the means are "not necessary to that purpose or function." *Id.* at 1236.

The core of the *Whelan* holding—that copyright protection extends to the non-literal elements of computer programs—has been accepted by every court of appeals to have considered the issue.¹² The circuits also have agreed that Section 102(b) should be interpreted as embodying the "idea/expression" distinction with regard to all types of utilitarian literary works, including computer programs. Although, in the years following *Whelan*, the courts sometimes have struggled to formulate an appropriate test or methodology to follow in applying this distinction to the non-literal elements of computer programs, until the First Circuit's decision in this case the courts of appeals were moving towards a consensus on this point as well.

¹² *Engineering Dynamics, Inc. v. Structural Software, Inc.*, 26 F.3d 1335, 1341 (5th Cir. 1994); *Kepner-Tregoe, Inc. v. Leadership Software, Inc.*, 12 F.3d 527, 536 (5th Cir.), cert. denied, ___ U.S. ___, 115 S. Ct. 82 (1994); *Gates Rubber Co. v. Bando Chemical Indus., Ltd.*, 9 F.3d 823, 840 (10th Cir. 1993); *Autoskill, Inc. v. National Educational Support Systems, Inc.*, 994 F.2d 1476, 1495 n.23 (10th Cir.), cert. denied, ___ U.S. ___, 114 S. Ct. 307 (1993); *Computer Assoc. Int'l, Inc. v. Altai, Inc.*, 982 F.2d 693, 702 (2d Cir. 1992); *Johnson Controls, Inc. v. Phoenix Control Systems, Inc.*, 886 F.2d 1173, 1175 (9th Cir. 1989).

The district court's decision in *Paperback* has played a prominent role in this evolution. To determine whether the 1-2-3 user interface contained copyrightable expression, the district court developed a three-part test, taking Judge Hand's "abstractions" test from *Nichols v. Universal Pictures*, 45 F.2d at 121, as its starting point. In the first step, the court seeks to identify various conceptions of the "idea" behind the elements of the work at issue, ranging from the most generalized (an electronic spreadsheet), to the most particularized (the precise contents and arrangement of the 1-2-3 menu command hierarchy). Pet. App. at 220a-222a. In the second step, the court examines each element of the program tentatively identified as expression to determine whether it is "essential to" or merges with the idea itself, or is one of only a few ways to express the idea. *Id.* at 222a. In the third step, the court considers any non-essential elements of expression that remain after the second step, to ascertain whether they are qualitatively substantial enough to make their appropriation unlawful. *Id.*

Applying this test to the 1-2-3 user interface following a twelve-day bench trial, the district court concluded that certain elements were unprotected because they were essential to every expression of an electronic spreadsheet, were obvious, or were standard to such programs. *Id.* at 232a-233a. The district court also concluded that the 1-2-3 menus, considering their contents, arrangement, and presentation on the screen, contained expression that was not essential to the "idea" of a spreadsheet menu structure, and were only one of "many if not an unlimited" number of ways to express that idea. *Id.* at 234a. Finding that *Paperback* had copied these protected elements and that these elements were qualitatively substantial (*id.* at 238a-239a), the district court concluded that *Paperback* had infringed.

In *Computer Assoc. Int'l, Inc. v. Altai, Inc.*, 982 F.2d 693 (2d Cir. 1992), the Second Circuit strongly criticized the Third Circuit's approach in *Whelan* for seeming to assume that "only one 'idea' . . . underlies any computer program, and that once a separable idea can be identified, everything else must be expression." *Id.* at 705, quoting from David Nimmer & Melville B. Nimmer, 3 *Nimmer on Copyright*, § 13.03[F][1] at 13-62.34

(hereinafter “Nimmer”). The *Altai* court adopted the “abstraction-filtration-comparison” test proposed in Nimmer, the leading treatise in this field, for determining whether an infringement of the non-literal elements of computer programs has occurred. Like the *Paperback* test, the *Altai* test also proceeds in three steps, the first of which is an “abstractions” analysis derived from Judge Hand’s *Nichols* decision. 982 F.2d at 706-07. In the second step of “filtration,” the court examines each element of the copyrighted work to “screen” out those that are functionally dictated, are standard to the treatment of the subject, or are not original. *Id.* at 707. This step serves to define the scope of plaintiff’s copyright. *Id.* In the final step of “comparison,” the court compares the elements of the copyrighted work that survive the filtration process to corresponding elements of the allegedly infringing work to determine whether enough copying has occurred to find infringement. *Id.* at 710-11.¹³ The *Altai* court cited *Paperback* with approval in its analysis. *Id.* at 702. According to the Nimmer treatise, the *Altai* and *Paperback* tests, even though phrased differently, “harmonize” and yield similar results. 3 Nimmer, § 13.03[F][1] at 13-131, n.303.13.

In *Gates Rubber Co. v. Bando Chemical Indus., Ltd.*, 9 F.3d 823, 840-41 (10th Cir. 1993), the Tenth Circuit relied upon the *Whelan*, *Paperback*, and *Altai* analyses to formulate its own variation of the “abstraction-filtration-comparison” test. The court noted the *Altai* court’s criticism of the *Whelan* decision, but stated that “when a program is understood to encompass more than one idea, the general principle of *Whelan* provides a useful means to distinguish idea from expression,” and found “its conclusion that the structure of a program may be protectable is sound.” *Id.* at 840. Referring to Judge Keeton as having “written extensively on the subject of software protection,” the court described the *Paperback* test as a “forerunner of the standard that we adopt in this case.” *Id.* at 840-41.

The *Paperback* test also was cited with approval and relied upon by the Fifth Circuit in *Engineering Dynamics, Inc. v.*

¹³ Even though Judge Keeton was not required to perform a “comparison” step in this or the *Paperback* action, because in both cases the defendants admitted to copying the elements at issue, he did determine that those elements were a qualitatively substantial part of 1-2-3.

Structural Software, Inc., 26 F.3d 1335, 1343 (5th Cir. 1994). The Fifth Circuit expressly endorsed the *Gates Rubber* “abstraction-filtration-comparison” method for determining copyright protection for computer programs.” *Id.* at 1342. The court described Judge Keeton’s test as a “similar systematic approach.” *Id.* at 1343. Thus, prior to the First Circuit’s judgment in this case, the courts of appeals appeared to be converging on an appropriate methodology for applying the idea/expression distinction to non-literal elements of computer programs, based in large part upon Judge Keeton’s decisions.

C. Prior Proceedings in This Case

1. In the District Court

The district court issued the *Paperback* opinion on June 28, 1990. Lotus filed this action four days later. Both parties moved for summary judgment. The district court granted Lotus’ motion in part and denied Borland’s motion.

The district court concluded that Borland essentially had admitted to having “copied the menu commands and command structure of Lotus 1-2-3.” Pet. App. at 113a. Applying the *Paperback* test as modified in an earlier decision in this case (*id.* at 163a-165a), Judge Keeton found that the appropriate conception of the idea behind the 1-2-3 menu command hierarchy was a “system of menus,” hierarchically arranged as in 1-2-3, “so that all the specific spreadsheet operations available in Lotus 1-2-3 are accessible through” the menu command hierarchy. *Id.* at 129a. The district court found that “literally millions of satisfactory menu trees” could be generated to express this idea (*id.* at 131a), and concluded that it was beyond genuine dispute “that a large part of the structure and arrangement of the [1-2-3] menu commands is not driven entirely by functional considerations.” *Id.* at 133a. The district court also determined, however, that Borland had identified potential issues for trial concerning whether some aspects of the 1-2-3 menus were “functionally dictated” by certain “functional rules” or by concerns of “efficiency and usefulness.” *Id.* at 116a.

Following the summary judgment decision, Borland removed the “1-2-3 emulation” menu trees from its products and began to publicize the existence of the “Key Reader.” *Id.* at 54a-56a. Lotus sought and was granted leave to file a supplemental complaint alleging that the Key Reader also infringed its 1-2-3 copyrights. *Id.* The district court held two bench trials after Borland waived its jury demand. *Id.* at 75a-77a. The scope of the Phase I trial was defined by stipulation as “all issues not previously *finally* decided by way of summary judgment concerning Borland’s alleged liability herein, and all its defenses thereto,” excluding Key Reader issues. *Id.* at 75a. The Phase II trial addressed all issues relating to the Key Reader. *Id.* at 76a.

The district court issued separate opinions concerning the two phases of trial. In the Phase I opinion, the court held that “what Borland copied from 1-2-3 was not limited to aspects dictated by functional constraints. Rather, Borland copied the entire menu tree, much of which was the free expression of the creators of Lotus 1-2-3.” *Id.* at 89a. In addition, the district court examined the 1-2-3 menu command hierarchy pursuant to the “conceptual separability” test articulated by this Court in *Mazer v. Stein*, 347 U.S. 201, 218 (1954), and found as fact that the 1-2-3 menu command hierarchy contained expressive elements that were separable from its functional aspects or ultimate uses, and was therefore copyrightable.¹⁴ *Id.* at 93a & 130a. The Phase II opinion held that the Key Reader’s “phantom” menus contained a “virtually identical” copy of “details of expression of the Lotus 1-2-3 program’s menu structure.” *Id.* at 46a-47a. Concluding that Borland had infringed Lotus’ copyrights, the district court entered a permanent injunction (at Borland’s request) prohibiting further sales of Borland’s products in a form that contained the infringing features. *Id.* at 69a-70a.

¹⁴ Even though the district court acknowledged that, as codified in the 1976 Copyright Act, the “conceptual separability” test applies to “useful articles” such as lamp bases falling within the definition of “pictorial, graphical, and sculptural works,” rather than to “literary works” such as computer programs, Judge Keeton nonetheless applied this stricter test to the Lotus 1-2-3 menu command hierarchy. Pet. App. at 117a. *See* 17 U.S.C. § 101 (definitions of “useful article” and of “pictorial, graphical, and sculptural works”).

2. In the Court of Appeals

The First Circuit approached the question of interpretation of Sections 102(a) and 102(b) in a fundamentally different way than did the district court. Describing the case as one of “first impression in this court” (Pet. App. at 12a), the majority acknowledged that its approach conflicted with that followed by other courts of appeals. *Id.* at 21a-22a. To the First Circuit, the “initial inquiry” was *not* “whether the Lotus menu command hierarchy incorporates expression.” *Id.* at 17a. Indeed, the majority accepted the district court’s finding that it did. *Id.* The majority also considered the potentially very large number of ways to express that menu command hierarchy to be “immaterial” to its analysis, again accepting the fact that numerous alternative expressions did exist. *Id.*

The majority instead read Section 102(b) as enumerating a set of “categories” of works “foreclosed from copyright protection,” even if they contain original expression that would otherwise qualify for copyright protection under Section 102(a). *Id.* at 21a. The “initial inquiry” for a court, according to the First Circuit, is to determine whether a work can be characterized as fitting into one of these categories, such as “method of operation.” *Id.* at 17a. The court below opined that the 1-2-3 menu command hierarchy is a “method of operation” because it “provides the means by which users control and operate Lotus 1-2-3.” *Id.* at 15a.¹⁵ Concluding that “the entire Lotus menu command hierarchy is essential to operating Lotus 1-2-3” (*id.* at 17a-18a) by analogy to the buttons on a videocassette recorder (“VCR”) machine (*id.* at 18a-19a), the court of appeals saw no need to inquire further into whether or to what extent the menu command hierarchy reflected “‘expressive’ choices” or was capable of alternative expression. *Id.* at 17a.¹⁶ The First Cir-

¹⁵ Judge Boudin’s concurrence describes this “formulation” as “defensible” upon the authority of *Webster’s College Dictionary*. *Id.* at 27a. The majority cites to no authority for its interpretation.

¹⁶ The First Circuit did not mention, or apparently consider, the district court’s finding that the 1-2-3 menu command hierarchy contained copyrightable expression even under the “conceptual separability” test applicable to “useful articles” such as lamp bases, as articulated by this

cuit found its conclusion to be "bolstered" by this Court's ruling in *Baker v. Selden*, 101 U.S. 99 (1879). Pet. App. at 18a. Because Lotus wrote the menu command hierarchy "so that people could learn it and use it," the court below declared that it "falls squarely within the prohibition on copyright protection established" in that case and codified in Section 102(b). *Id.*

Judge Boudin's concurrence expresses the view that Congress's role in the copyright context is limited to sketching the "broad-brush conception" and prescribing "formalities." *Id.* at 25a. The "heart of copyright doctrine—what may be protected and with what limitations and exceptions"—is, according to him, left by "tradition" to be determined by the courts. *Id.* Judge Boudin recognized that the majority's reading of Section 102(b) could "exclude most computer programs from protection" and that the statute could be read (and has been by other courts) "in cookie cutter fashion" as a "congressional command" to the contrary. *Id.* at 24a-25a. Nevertheless, he agreed with the majority's result for reasons more appropriate to antitrust analysis than to copyright—in particular his concern about users being "locked into Lotus" as a "*de facto* standard for electronic spreadsheet commands." *Id.* at 26a.¹⁷ Finding the majority's "formulation is as good, if not better, than any other that occurs to me now as within the reach of courts" (*id.* at 28a), he declared that "the choices are important ones of policy, not linguistics, and they should be made with the underlying considerations in view." *Id.* In Judge Boudin's view, Congress did not resolve these important policy choices, but instead left the courts a free hand to do what they thought best.¹⁸

Court in *Mazer v. Stein*, 347 U.S. 201, 218 (1954), and codified in the 1976 Copyright Act.

¹⁷ Judge Boudin cites nothing in the record below to support his factual premises and assumptions concerning Lotus' market position and the competitive effect of enforcing Lotus' copyrights (issues that were *not* raised or tried in the district court). Borland's motives for copying, or the extent to which users' purchases of Quattro Pro proved it to be a "better product," rather than just a cheaper imitation and substitute. *Id.* at 26a-27a.

¹⁸ Judge Keeton expressed a very different view concerning the extent to which judicial action in this field is constrained by Congressional mandate. *Id.* at 166a & 206a-207a. *Accord, Altai*, 982 F.2d at 702 (the "statutory terrain in this area has been well explored," citing *Paper-*

REASONS FOR GRANTING THE PETITION

This Court has stated that the copyright law, following explicit Constitutional authority, reflects a belief that the limited monopolies it confers serve the public welfare by encouraging authors to generate new ideas and to disseminate them to the public in any originally expressed way that they may choose. *Harper & Row, Publishers, Inc. v. Nation Enterprises*, 471 U.S. 539, 546 (1985). Although the "immediate effect of our copyright law is to secure a fair return for an 'author's' creative labor," the ultimate aim of this incentive is to stimulate creativity for the "general public good." *Sony Corp. v. Universal City Studios, Inc.*, 464 U.S. 417, 432 (1984), quoting from *Twentieth Century Music Corp. v. Aiken*, 422 U.S. 151, 156 (1975). The policy of "encouragement of individual effort by personal gain" has long been viewed as "the best way to advance public welfare through talents of authors and inventors in 'Science and useful Arts'." *Mazer v. Stein*, 347 U.S. 201, 219 (1954). When Congress decided in 1976 to treat computer programs as copyrightable literary works, and reaffirmed that decision by embracing the CONTU recommendations in 1980, it manifested a policy judgment to promote progress in this nascent field of intellectual creativity by extending to the authors of these new forms of writing the same encouragement that all other authors receive. Whatever form of substantive regime this policy may dictate, it is essential to its realization that it be applied in a uniform manner.

Until the First Circuit's decision in this case, the various courts of appeals had reached an apparent consensus on certain fundamental principles regarding copyright protection for computer software. *First*, that Congress intended that copyright protection apply to computer programs under the same principles governing other "literary works." *Second*, that because Section 102(b) is a codification of the idea/expression distinction, any attempt to delineate the extent to which copyright will protect computer programs must be grounded in that distinction. *Third*, that the courts should extend the scope of protection for computer programs, as

back, and the legislative history "leaves no doubt that Congress intended" computer programs to be treated like other literary works).

with other types of literary works, beyond their literal manifestations to their non-literal elements as well, to the extent they reflect the author's original expression.

In the shaping of this consensus, the five opinions of Judge Keeton in this and the *Paperback* case have become a touchstone—a common citation and point of departure in any analysis of this issue. His opinions are cited with approval by the Second, Ninth, and Tenth Circuits, and relied upon explicitly by the Fifth.¹⁹ Not one of these courts has suggested that the central tenets of Judge Keeton's analysis have been anything but correct. If there is divergence, it is only on points of emphasis or in the details of the particular methodology to follow in applying that analysis to the facts of an individual case.

The First Circuit's relatively brief opinion comes as a jarring departure from the prevailing consensus and brushes all this painstaking work aside. The First Circuit quarrels with everybody: with the district court, with the Nimmer treatise, with Learned Hand, and with the Second, Ninth, and Tenth Circuits. Pet. App. at 14a-15a. And because the Fifth Circuit in *Engineering Dynamics* explicitly adopts Judge Keeton's analysis, the First Circuit must disagree with that circuit as well. The result is conflict both in outcome and approach, as the First Circuit openly acknowledges. *Id.* at 21a-22a. This alone justifies this Court's review.

But the potential consequences of the First Circuit's decision run deeper still. Under the First Circuit's reasoning, it is unclear what, if any, elements of computer programs would merit protection, because all programs to some degree describe a "method of operation" for a machine—as Judge Boudin concedes. This presents a serious problem for an important American industry. In the years since the adoption of the Copyright Act in 1976 and the software amendments of 1980, the computer software industry has prospered, relying primarily, as Congress no doubt expected, upon copyright law to protect the fruits of its creative efforts. Although the analogy between novels or plays and these

¹⁹ Judge Keeton's opinions below have been favorably cited in copyright cases by more than 20 different Federal trial and appellate courts.

new digital works of authorship occasionally may seem strained (no more so, of course, than with lamp bases), the growth of the industry, both in size and diversity, strongly suggests that Congress's policy decision to protect computer programs under the copyright law has worked well. The First Circuit's decision potentially destabilizes a significant portion of accepted copyright doctrine as it has been applied by the courts to computer programs, following the Congressional mandate.

I

THE DECISION OF THE COURT OF APPEALS CONFLICTS WITH DECISIONS OF NO FEWER THAN FIVE OTHER CIRCUITS

The First Circuit's rejection of the idea-expression distinction in interpreting Section 102(b) and its holding that menu command hierarchies are an uncopyrightable "method of operation" conflicts with decisions of no fewer than five other circuits. Most recently, in *Engineering Dynamics, Inc. v. Structural Software, Inc.*, 26 F.3d 1335, 1343 (5th Cir. 1994), the Fifth Circuit held that plaintiff's selection of "approximately 230 input-output formats that comprise the user interface" of a structural engineering program, "taken as a whole, readily qualify as 'expression' measured against the ideas versus expression dichotomy." *Id.* at 1343-44. These formats serve "to mediate between the user and the program, identifying what information is essential and how it must be ordered to make the program work." *Id.* at 1344. Under the First Circuit's reasoning, these characteristics would render the formats part of an unprotected "method of operation." To the Fifth Circuit, they served as indicia that the formats conveyed more than an unprotectable "idea."

The *Engineering Dynamics* court relied heavily upon Judge Keeton's opinions in *Paperback* and this case. Upon the authority of *Paperback*, it concluded that "the command format and sequence structure in an original word processing or computer spreadsheet should be copyrightable" because, as a whole, they contain "a high degree of original expression." *Id.* at 1345-46. The court recognized that the input formats at issue "ultimately act like switches in the electrical circuits of the program," but

concluded that this utilitarian function did not “outweigh their expressive purpose so as to preclude copyright protection.” *Id.* at 1346. The court went so far as to express incredulity that the law would permit blatant copying of a best-selling program’s user interface (*id.*)—the very conduct that the First Circuit not only condoned in this case, but celebrated as socially desirable. Pet. App. at 20a-21a & 26a-27a.

The First Circuit’s decision also conflicts with the Tenth Circuit’s ruling in *Autoskill, Inc. v. National Educational Support Systems, Inc.*, 994 F.2d 1476 (10th Cir.), *cert. denied*, ___ U.S. ___, 114 S. Ct. 307 (1993), as the First Circuit explicitly acknowledged. Pet. App. at 21a. In *Autoskill*, the plaintiff’s program comprised a “system” (so described) for testing reading skills in a structured, query-and-response format. 994 F.2d at 1481. The queries that the program displayed to the user consisted of a selection of individual words, arranged in sequence according to various skill types and levels, that the Tenth Circuit held to be copyrightable. *Id.* at 1495-96. The Tenth Circuit also found that the program’s “keying procedure” by which users communicated responses to the program was sufficiently expressive, applying the merger doctrine and the “idea/expression” distinction, to avoid classification as a “method of operation” under Section 102(b). *Id.* The First Circuit declares that it would have ruled otherwise. Pet. App. at 22a. The conflict is plain.²⁰

The First Circuit concedes that its decision also can be read to conflict with rulings of the Ninth Circuit (Pet. App. at 22a), which has indicated on two occasions that it considers “the non-literal components of a program,” including the “manner in which information is presented to the user” in a user interface, to constitute copyrightable subject matter upon a showing that

²⁰ The First Circuit further conflicts with the Tenth Circuit concerning the proper approach to interpreting Section 102(b). In *Autoskill*, that court declared that “[w]e must go beyond the literal language of the statute and apply the idea/expression distinction to resolve” the copyrightability issue. 994 F.2d at 1495 n.23. See also *Gates Rubber Co. v. Bando Chemical Indus., Ltd.*, 9 F.3d 823, 849 (10th Cir. 1993) (directing trial court to determine the copyrightability of “menus and sorting criteria” in plaintiff’s program under a variation of the “abstraction-filtration-comparison” test rejected by the First Circuit).

the “component in question qualifies as an expression of an idea.” *Johnson Controls, Inc. v. Phoenix Control Systems, Inc.*, 886 F.2d 1173, 1175 n.3 (9th Cir. 1989). *Accord, Brown Bag Software v. Symantec Corp.*, 960 F.2d 1465, 1476-77 (9th Cir.), *cert. denied sub nom. BB Asset Mgmt. Inc. v. Symantec Corp.*, ___ U.S. ___, 113 S. Ct. 198 (1992) (recognizing protectability of screens, menus, and keystrokes of the program’s user interface). As the First Circuit observed (Pet. App. at 22a), the holding in *Brown Bag*, narrowly construed, was to affirm a finding of no infringement because the defendant had not copied the plaintiff’s menus or keystrokes. 960 F.2d at 1475. Nonetheless, a conflict exists because the premise of the Ninth Circuit’s holding is that the menus and keystrokes were protected and therefore susceptible of being infringed, had they been copied. Moreover, the Ninth Circuit has declared that its test for determining the copyrightability of non-literal elements of computer programs, “although articulated differently,” is similar to that applied by the district court and overturned by the First Circuit in this case. *Apple Computer, Inc. v. Microsoft Corp.*, 35 F.3d 1435, 1445-46 (9th Cir. 1994), *cert. denied*, ___ U.S. ___, 115 S. Ct. 1176 (1995).

The First Circuit’s interpretation of Section 102(b) as applied to computer programs also conflicts with that of the Second and Third Circuits. The court below specifically rejected the “abstraction-filtration-comparison” test adopted by the Second Circuit in *Computer Assoc. Int’l, Inc. v. Altai, Inc.*, 982 F.2d 693, 703-10 (2d Cir. 1992), because it perceived that test as resting upon an assumption that at least *some* element of the work being examined is potentially protectable. Pet. App. at 15a.²¹ Indeed, the First Circuit rejects not only the *Altai* test but also Judge Hand’s “abstractions” analysis from *Nichols*, declaring that the abstraction process “obscures the more fundamental question of whether a menu command hierarchy can be copyrighted at all.” *Id.*

²¹ The First Circuit faults the “abstraction-filtration-comparison” test generally “because it seems to encourage [courts] to find a base level [of abstraction] that includes copyrightable subject matter,” and implies that every case of literal similarity would result in a finding of infringement. *Id.* at 14a.

Finally, although the First Circuit does not mention it, the decision in *Whelan Assoc., Inc. v. Jaslow Dental Laboratory, Inc.*, 797 F.2d 1222 (3d Cir. 1986), *cert. denied*, 479 U.S. 1031 (1987), remains good law in the Third Circuit, despite any criticism it has received elsewhere. Because the First Circuit finds the *Altai* test too lenient, and the *Altai* test was in turn a response to perceived limitations of *Whelan* (982 F.2d at 705), it must follow that the First Circuit also rejects the *Whelan* approach. More fundamentally, the interpretation given to Section 102(b) by the court below conflicts with that established in the Third Circuit over ten years ago in *Apple Computer, Inc. v. Franklin Computer Corp.*, 714 F.2d at 1240, 1250-52 (3d Cir. 1983), *cert. dismissed*, 464 U.S. 1033 (1984). In that case, the Third Circuit rejected an argument that an operating "system" was "*per se* exclud[ed] from copyright protection under the express terms" of Section 102(b) (*id.* at 1250), finding instead that the "expression/idea dichotomy is now expressly recognized" in that provision. *Id.* at 1252. And unlike the Third Circuit, which refused to accept a purported "compatibility" defense it described as a "commercial and competitive objective" that did not enter into its copyrightability determination (*id.* at 1253), the First Circuit expressly relied upon Borland's professed goal of achieving "program compatibility" to support its conclusion that the 1-2-3 menu command hierarchy was an uncopyrightable "method of operation." Pet. App. at 20a.

In sum, the court below deliberately has set itself in conflict, both in outcome and approach, with the decisions of no fewer than five other circuits. As revealed by Judge Boudin's comment that "no intermediate appellate court can make the final choice" as to the "right" solution (*id.* at 27a), the First Circuit appears to have gone out of its way to invite this Court's review.

II

THE QUESTION OF FEDERAL LAW DECIDED BY THE COURT OF APPEALS UNSETTLES THE LAW IN AN IMPORTANT AREA AND THEREFORE THE PUBLIC INTEREST REQUIRES THIS COURT'S REVIEW

Both the statute and the legislative history manifest Congress's intent to protect computer programs as literary

works under the copyright law. Congress considered but rejected the establishment of special rules to apply to these new digital works of authorship.²² In so doing, Congress was fully aware of the functional nature of computer programs. The definition it adopted for them in the Copyright Act—"a set of statements or instructions to be *used* directly or indirectly in a computer *in order to bring about a certain result*" (17 U.S.C. § 101; emphasis supplied)—is ample proof, standing alone, that Congress understood that computer programs were expressive works much of whose value would lie in their utility rather than their aesthetic appeal. Congress placed its faith in the courts to give meaningful protection to programs, despite whatever difficulties and doctrinal rough edges might arise from its decision to recognize these admittedly functional works within the body of copyrightable subject matter. House Report at 57, *reprinted in* 1976 U.S. Code Cong. & Admin. News at 5670. Its decision is reflected in its specific reference to Section 102(b), which it explained was meant to restate existing case law concerning the dichotomy between expression and idea, no more and no less ("Section 102(b) . . . in no way enlarges or contracts the scope of copyright protection under present law."). *Id.*

The First Circuit's interpretation of Section 102(b) as establishing a "string of exclusions" (Pet. App. at 24a), definitional in nature, through which an element of a work must pass *before* the expressive aspects of that element may be protected, is at odds with everything that has preceded it. Since Congress acted, certain basic parameters and principles concerning the scope of protection for computer programs have been established by the Federal appellate and trial courts as they have worked over time, in response to the distinct facts of individual cases, to fulfill the Congressional mandate. None has interpreted Section 102(b) in this manner.

In the wake of the First Circuit's decision, software developers (and their investors) can no longer tell whether, or to what extent, their creative efforts will receive effective protection or

²² The only unique limitation imposed on the rights conferred on authors of computer programs was the grant of limited rights to program users to modify or make back-up copies (for personal use only) of other legitimately-acquired copies. 17 U.S.C. § 117.

may encroach upon the rights of others. In the software industry, product design decisions often are part of multi-million dollar research and development programs, followed by equally large marketing expenditures, all intended to generate sales across a national (and international) market. Uncertainty as to precisely where the line is drawn may be a long-standing problem in copyright law,²³ but when fortuities of forum and venue can lead to flatly inconsistent outcomes and analyses, an industry operating on a nationwide basis simply cannot order its affairs in accordance with the rule of law.

One obvious and important area of legal uncertainty is the extent to which a program's menus and other original, expressive elements of its user interface are eligible for copyright protection. As the software industry has flourished and the programming art has advanced, the creative efforts of software developers have become increasingly focused upon the design and implementation of user interfaces that make it easier for users to understand and put to productive use the power of computers. But the ability of developers to protect their creations from blatant copying is now in doubt. It is now legal to copy menus in the First Circuit, but not in the Fifth, Ninth, or Tenth. Without the uniformity of law that only this Court can achieve, the industry and users are left to speculate as to whether a particular product or application will receive protection or whether another will be deemed an infringement. Rational product development and investment decisions, and the continued growth of this vital industry, depend upon this Court providing a clear and final resolution of this issue.

The uncertainty created by the First Circuit's decision extends beyond the copyrightability of menu command hierarchies and other expressive elements of user interfaces. If the characterization of a work as a "method of operation," despite the presence of separable expression, is sufficient to defeat its copyrightability, then all elements of computer programs (except, perhaps, their decorative or ornamental features)—even

²³ See *Peter Pan Fabrics v. Martin Weiner Co.,* 274 F.2d 487, 489 (2d Cir. 1960) (L. Hand, J.) (decisions as to when an imitator has gone beyond the idea and has borrowed its expression must inevitably be *ad hoc*); *Paperback*, Pet. App. at 244a-246a.

their source or object code—stand on shaky ground. As is true of menu command hierarchies, a program consists of a set of statements and instructions that achieve a functional result when communicated to a computer. Indeed, the very purpose of a computer program is to express a "method" or "process" or "system" by which a user can operate a computer to perform some functional task; the same may be said of any manual or instructional text. Whether or not a particular expression of that "method" is "essential" to use of the "method" becomes, under the First Circuit's reasoning, largely irrelevant: it depends merely on how the "method" is defined. The First Circuit's decision provides no guidance for making this determination beyond its analogies to (uncopyrightable) machines such as VCR's and food processors.

It is difficult to discern a logical boundary in the First Circuit's approach to limit the ways in which its ruling, if followed, could serve to roll back the scope of protection for computer programs generally. Carrying the First Circuit's reasoning slightly further towards its logical conclusion, for example, even the Third Circuit's seminal decision in *Apple v. Franklin*, which first extended protection to operating system software, would be called into question. Such software certainly provides a "means by which users control and operate" a computer, and thus comprises a "method of operation." Yet, without the expression in the operating system's set of instructions, no use can be made of its functional capabilities, or of programs designed to work with that operating system. It is not at all clear under what rationale the First Circuit could now sustain the *Apple v. Franklin* holding.

Thus, Judge Boudin is correct in observing that the issues raised in this case are "important ones of policy." Pet. App. at 28a. Whether the First Circuit's novel interpretation of Section 102(b) is consistent with the statement and intentions of Congress; whether copying of user interfaces serves the public interest; whether copyright law and policy as articulated by this Court over the years should be limited, when applied to computer programs, by competition policy considerations and, if so, upon what basis, and by Congress or by the courts; and whether copyright in computer programs should be construed more nar-

rowly, more critically or simply differently than in other forms of literary works, are all questions raised by the First Circuit's decision that bear upon the extent to which computer programs will receive meaningful and effective copyright protection in the future.

Finally, the First Circuit's unique view that Section 102(b) somehow "trumps" the statutory protection accorded the expressive elements of copyrightable works by Section 102(a) is a conception that is not limited to computer programs, or even literary works. It would reach all copyrightable subject matter and has the potential to undo a generation of copyright precedent. *Cf. Mazer v. Stein*, 347 U.S. 201, 218 (1954). This Court's guidance, therefore, seems imperative.

Conclusion

The petition for a writ of certiorari should be granted.

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